

Claims:-

1. A composition for forming a fire resistant material comprising a plurality of expandable beads of a polymeric material, wherein the polymeric material comprises polystyrene, said beads being coated with an exfoliable graphite, characterised in that the exfoliable graphite is adhered to the beads with a resin having a solubility parameter of within substantially $0.5(\text{cal cm}^{-3})^{1/2}$ of the solubility parameter of the polymeric material.
2. A composition according to any preceding claim characterised in that the resin comprises an emulsion comprising one or more of a styrene/acrylic copolymer, a styrene homopolymer, a vinylidene vinyl chloride copolymer, methylphenyl siloxane.
3. A composition according to claim 1 or 2 characterised in that the resin includes a halogenated flame retardant.
4. A composition according to claim 3 characterised in that the resin includes a synergist comprising an oxide of an element of Group 6B of the Periodic Table.
5. A composition according to claim 3 or 4 characterised in that the halogenated flame retardant comprises a brominated flame retardant.
6. A composition according to claim 3, 4 or 5 characterised in that the flame retardant comprises hexabromocyclododecane.
7. A composition according to claim 3, 4, 5 or 6 characterised in that the synergist comprises tungsten oxide.
8. A composition according to any of claims 3 to 7 characterised in that the synergist comprises yellow tungsten oxide.
9. A composition according to any preceding claim characterised in that the expandable beads comprise partially expanded polystyrene beads.

10. A method of forming a fire resistant material comprising: providing a composition according to any preceding claim; and thereafter causing or allowing said beads to expand and fuse together.

5

11. A fire resistant material comprising a composition according to any of claims 1 to 11 wherein the beads have been allowed to expand and fuse together.

12. A fire carrier formed of a fire resistant material according to claim 11 arranged between non-flammable outer skins where the fire resistant material contains sufficient exfoliable graphite substantially to fill the cavity between the skins on expansion thereof after melting and loss of within substantially $0.5(\text{cal cm}^{-3})^{\frac{1}{2}}$ of the polymeric material in a fire situation

10
15